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**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
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San Francisco, CA 94105**

SENT VIA EMAIL AS PDF

November __, 2020

Sean-Ryan McCray
Remedial Project Manager
Department of the Navy
Base Realignment and Closure Program Management Office West
33000 Nixie Way, Building 50
San Diego, CA 92147

Subject: EPA Comments on the Draft Radiological Scoping Survey Report,
Parcel F Structures—Finger Piers
Hunters Point Naval Shipyard Superfund Site

Dear Mr. McCray:

Please see attached EPA comments on the “Draft Radiological Scoping Survey Report, Parcel F Structures—Finger Piers” for the Hunters Point Naval Shipyard Superfund Site in San Francisco, California. The draft report is dated August 2020.

Please contact me at 415-972-3181 or [[HYPERLINK](#)
"mailto:praskins.wayne@epa.gov"] with any questions.

Sincerely,

Wayne Praskins
EPA Project Manager

cc: Nina Bacey, California Department of Toxic Substances Control
Terry Han, California Department of Public Health, EMB
Tina Low, San Francisco Regional Water Quality Control Board
Amy Brownell, San Francisco Department of Public Health

**EPA Comments on the Draft Radiological Scoping Survey Report,
Parcel F Structures—Finger Piers
Hunters Point Naval Shipyard Superfund Site
Draft Report dated August 2020; EPA Comments dated November __, 2020**

1. Section 2.1, Site Location: The Draft Radiological Scoping Survey Report Parcel F Structures – Finger Piers, Hunter's Point Naval Shipyard, August 2020 (the Report) states that "The finger piers ... include concrete surfaces and other infrastructure (e.g., open and closed manholes, metal grates, one small structure on the finger piers [not included in this scoping survey], other debris)." Please describe the small structure not included in the survey and explain why it was not included.

1.2. Section 3.4.5, Alpha/Beta Static Measurements, Page 3-8: The last sentence in the third paragraph on page 3-8 states the minimum detectable concentrations (MDCs) "for the "floor monitor" detector listed in the Work Plan (APTIM, 2019) were 21.5 dpm [disintegrations per minute]/100 cm² [square centimeters] for alpha activity and 184 dpm/100 cm² for beta activity," but does not state the matrix to which the MDCs apply. For example, if these MDCs were obtained using background counts from concrete, then the text should state this. Please revise the Report to state the matrix/matrices to which the referenced alpha and beta MDCs apply.

~~Section 5.1.2, Meetings, Page 5-1 and Section 5.2, Mobilization and Site Preparation, Page 5-2: This section states that a pre-construction and mutual understanding meeting was held on July 24, 2018 prior to mobilization; however, the Section 5.2 indicates mobilization and data collection activities started in August of 2019. Please resolve this discrepancy.~~

Commented [A1]: Moved to last comment

3. Section 5.2.3, Site Preparation of Survey Areas, Page 5-3: This section states that the surfaces of the finger piers were swept to remove dust and debris to obtain a debris-free smooth surface to facilitate alpha/beta surveys. ~~but the text does not~~ Please revise this section to describe how the surfaces were swept, how much or what type of debris was swept away, and whether removed dust and debris were surveyed to check for radiological contamination prior to disposal. Please revise this section to describe in detail how these activities were conducted.

4. Section 5.3.1, Reference Background Areas, Page 5-3: It is unclear what reference background area was used. The text in Section 5.3.1 states, "A concrete pad in Parcel C was used as the RBA [reference background area] for alpha/beta measurements," but Field Change Request (FCR) 04 states that "data collected to date have shown that this reference area [Parcel C] is not appropriate for the Finger Piers." The FCR recommends use of a selected portion of the Finger Pier after scarification.

In addition, Section 5.3.1 states that "a small concrete pad adjacent to the submarine pens was used as the RBA for gamma measurements." In addition contrast, Section 5.3.2 (Survey Investigation Levels) of the APTIM May 2019 Work Plan states, "The reference area behind Building 810 (Figure 1) will be used to establish gamma instrument-specific investigation levels (ILs)." Although the last paragraph in this section discusses scabbling

concrete in SU 6, it is unclear whether SU 6 was used as an RBA as described in FCR-04 and why the RBA specified in the 2019 Work Plan was not used. Please revise the Report to clarify which RBAs were used, and whether changes to the workplan were fully documented with FCRs if the area at SU 6 as specified in FCR-04 was not used, explain why a different RBA was used and why an FCR revision was not issued.

5. **Section 5.3.1, Reference Background Areas, Page 5-4, and Section 6.7, Solid Sample Laboratory Analysis Results Data Quality Review:** The last paragraph of Section 5.3.1 states that concrete samples were collected from SU 6, but it is unclear why SU 6 was selected. The text should explain how collecting a concrete sample from SU 6 was considered representative of all of the Finger Piers SUs. If these samples were collected to assess whether this area was suitable for use as an RBA, the text should discuss the results and whether this area was used as an RBA. Text in Section 6.7 states that the concrete samples “were collected at biased locations with the highest alpha static measurement results,” which would not include sampling SU 6 for potential use as an RBA. Please revise the text to address these issues.
6. **Section 5.3.3.1, Alpha/Beta Scan Surveys, Page 5-7:** It is unclear if the alpha/beta surveys were representative because the surfaces that were scanned may have been wet. The second paragraph states that “standing water was observed in the manholes at low tide but that did not limit accessible surfaces.” Given that the presence of water will alter the geometry and detection sensitivity of radiological measurements, the text should be revised to state explicitly whether the surfaces which were surveyed were in contact with the water, and whether the surfaces were wet or dry. Please revise the text to clarify whether the surfaces that were surveyed were in contact with water, or wet at the time the alpha/beta assays were completed. If the surfaces were in contact with the water or wet, please also explain how the results of the radiological surveys still met the project MDCs and provided representative results.
7. **Section 5.3.4, Solid Sample Collection and Laboratory Analysis, Page 5-10, and Figure 27, SUs 4, 5, & 6 Sample Locations:** The text states that two concrete chip/dust samples were collected from SU 6, but only one sampling location in SU 6 is shown on Figure 27. Please resolve this discrepancy.
- 7.8. **Section 6.4, Alpha/Beta Scan Measurement Results Data Quality Review, Page 6-4:** Additional information is needed to support statements made in this section. This section states that Section 5.5.2.4 from the Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM) guidance was used to determine that collecting three times as many measurements (54) as originally designed (18) would account for the alpha scan MDC being approximately three times the required MDC of 100 dpm/100 cm². The text should be revised to provide an illustration that demonstrates how the formulas in MARSSIM guidance were applied to make a determination that collecting three times as many samples (54) would be sufficient for characterizing the Finger Pier SUs. Please revise this section to include the formulas and parameters for these calculations or text describing in detail how MARSSIM guidance was applied to make this sample size determination.

Commented [A2]: Doesn't the last part of the paragraph explain? (one sample from 0 – 1/8" inch; the other from 1/8 – 1/2")

Section 7.2 Conclusions

8.9. Table 10, Alpha Beta Static Smear Summary Statistics, and Table 11, Alpha Beta Biased Smear Summary Statistics:

It appears that the release limits were applied incorrectly to smear data. Footnote a to Tables 10 and 11 lists the release limits for alpha activity and beta activity of 100 dpm/100 cm² and 1000 dpm/100 cm². These are higher than the ILs for removable activity of 20 dpm/100 cm² and 200 dpm/100 cm², respectively; however, these limits apply to the static alpha release limit for Radium-226 and static beta activity for Strontium-90. This is an incorrect application of these release limits, because the purpose of the smears are to assess removable contamination. Please clarify, making any needed corrections to revise footnote a in both Tables 10 and 11 and verifying that no smear results exceed the release criteria, to list the lowest alpha beta activity limits for removable activity for each of the radionuclides of concern.

Commented [A3]: There is a statement in this section that "Therefore, the survey results do not conclude that exceedances are the result of historical Navy operations."

I don't know that it's worth commenting on but the wording seems weak or inappropriate – it could mean that the survey failed.

Commented [A4]: Based on the maximum values listed, even with the lower limits, no results exceed the limits and the conclusions do not change.

9.10. Table 12, Sample Summary Statistics:

Table 12 should specify the measurement units for the results. Section 7.1.6 (Solid Sample Collection and Laboratory Analysis) indicates that these results are in picoCuries per gram (pCi/g). If this is the case, the results should also include the uncertainty. Please revise Table 12 to specify the measurement unit for the results and to include the uncertainty.

11. Appendix D, Reference Background Area Data:

The tables with RBA data do not state where the data were collected, so it is unclear which RBA was used. Please revise each data table in Appendix D to state where the data were collected.

12. Appendix F, Gamma Survey Data:

In the Draft Radiological Scoping Survey Report Parcel F Structures – Finger Piers, Hunter's Point Naval Shipyard, August 2020 (the Report), the first data table in Appendix F the appendix does not include the date(s)/times for the gamma walkover survey data for Survey Unit (SU) 4. As a result, it is not possible to confirm if the data were collected on the dates stated in the Report. In addition, we could not locate the gamma walkover survey data for SU 5 or SU 6 is not included in the Report. Please revise the Report to include all gamma walkover survey data, including raw instrument data showing the dates/times data were collected.

Commented [A5]: This was your first General Comment

13. Appendix G, Alpha Beta Survey Data:

The alpha/beta scan and static data in the appendix Appendix G is provided in tables without the raw data from the Ludlum 2360 instrument. Please revise the Report to include the raw data files.

Commented [A6]: This was your second General Comment.

10.14. Apparent Typos/Minor Editorial Comments:

- Section 4.4.3 and 4.5, Calculation of Surface Activity and Instrument for Measurement of Smear Samples, Page 4-5: The definition of 'B' for the formula for calculating surface activity appears to be erroneous as 'B' is defined as the background efficiency rather than background count rate.

- Section 4.4.1, Instrument Efficiency, Page 4-3: The formula listed in this section indicates the background count rate is denoted by 'R_b'. Since 'R_{gross}' is stated to represent the gross rate (sample plus background) perhaps the background count rate should be defined as 'R_b'.

- Section 5.1.2, Meetings, Page 5-1 and Section 5.2, Mobilization and Site Preparation, Page 5-2: Section 5.1.2 states that a pre-construction and mutual understanding meeting was held on July 24, 2018; Section 5.2 indicates mobilization and data collection activities started in August 2019. Please confirm or, if needed, correct these dates.

- Table 5. There is a footnote "a" included in the "matrix" entry for the 2221/44-20. Is this a typo?

These are my review notes. They will not be part of the comment letter.

ROCs: Cs-137, Pu-239, Ra-226, Sr-90

Scope: Finger Piers 1, 2, and 3 (Ship Berths 23 - 28, 30 - 35, 37 - 42)

WP: *Final Revision 2, Radiological Scoping Surveys Work Plan, Parcel F Structures* (APTIM, 2019)

FCR-003—clarifies RS-700 procedures and revises ILs.

FCR-004—concrete reference background areas (RBAs).

FCR-006—follow-up locations via gamma spectral analysis.

Used RS700 for gamma scan of most horizontal surface; 3 x 3 for other gamma scan

	Scope	IL	Locations > IL	
Gamma scan (RS-700 and 3 x 3)	100% accessible surface	SU average + 3SD	92	
Gamma static (3 x 3)	Where gamma scan > IL	RBA ave + 3 SD	None	
Gamma spectroscopy	Where gamma static > IL - NONE			
Alpha/beta scan (in practice, 6-sec statics instead of scan) (Ludlum 43-37 GPD / 2360 ratemeter)	25% accessible surface and where gamma scan > IL (87,471 measurements)	RGs (<i>100 dpm/100cm²; for alpha: 1000 for beta</i>)	3,864 alpha measurements; no beta ***	
Alpha/beta static (2 min)	169 systematic and where alpha/beta scan > IL (111 biased)	50% of RGs	none	
Alpha/beta smears	Same as above, except grates? Or based on statics?	20% RGs	None +++	
Solid samples	3 locations (+ 2 BG)		None > BG (Ra-226 0.3 to 0.9 pCi/g)	

*** Alpha scan MDC: 173 to 198 dpm/100 cm² for concrete (>RG of 100)

+++ Alpha smear MDC: 12 dpm/100cm². Beta smear MDC: 70 dpm/100cm²

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